

# Claims

- [c1] An improved large bandwidth high frequency amplifier having a feedback loop comprising:  
at least one input terminal, said input terminals supplying a input signal ( $V_{in}$ );  
at least one output terminals, said output terminals supplying an amplified differential output signal ( $V_{out}$ ) as a function of the input signal;  
an input matching circuit;  
a first isolation circuit;  
an amplification section, wherein said input matching circuit, first isolation circuit and amplification section are connected in series in a direct amplification line, said amplification section having at least one large bandwidth low gain differential amplifier capable of generating said amplified output signal; and,  
a parallel feedback circuit consisting of a first feedback amplifier, an RC network, and a second isolation circuit connected in series, said parallel feedback circuit positioned between said output terminals and the amplification section inputs.
- [c2] The improved amplifier of claim 1 wherein said first iso-

lation circuit is selected from the group consisting of a buffer and an unitary gain amplifier.

[c3] The improved amplifier of claim 1 wherein said second isolation circuit is an amplifier having a gain  $\geq 1$ .

[c4] The improved amplifier of claim 2 wherein said second isolation circuit is an amplifier having a gain  $\geq 1$ .